

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the above-referenced application.

Listing of Claims:

1. (Original) An apparatus, comprising:

a first component having one or more electromagnetic elements; and

a second component having one or more electromagnetic elements and movably coupled to the first component, wherein:

the second component is adapted to move with respect to the first component in a cyclical manner; and

the one or more electromagnetic elements of the first component are adapted to interact with the one or more electromagnetic elements of the second component during each of one or more cycles of motion of the second component with respect to the first component such that, when a constant force profile is applied to move the second component with respect to the first component, the speed of motion increases and decreases one or more times during each cycle of motion due to different levels of electromagnetic interaction between the electromagnetic elements within each cycle of motion.

2. (Currently amended) The ~~invention~~ apparatus of claim 1, wherein the levels of

electromagnetic interaction are dependent on the direction of the motion of the second component with respect to the first component.

3. (Currently amended) The ~~invention~~ apparatus of claim 2, wherein the levels of electromagnetic interaction associated with a forward cycle of the motion are different from the levels of electromagnetic interaction associated with a reverse cycle of the motion.

Claims 4 - 6 (Cancelled)

7. (Currently amended) The ~~invention~~ apparatus of claim 1, where at least one electromagnetic element has a non-uniform surface texture that is matched to a surface to which it is attached.

Claims 8 - 21 (Cancelled)

22. (Currently amended) The ~~invention~~ apparatus of claim 20, wherein each prime mover is adapted to move the second component over a different portion of each cycle of motion.

Claims 23 - 28 (Cancelled)

29. (Currently amended) The ~~invention~~ apparatus of claim 1, wherein:

at least one of the electromagnetic elements in one of the components is a magnet; and
at least one of the electromagnetic elements in the other component is an interaction element, wherein:

the interaction element has a material that exhibits at least one of electrical conductivity and magnetic hysteresis; and

the electrical conductivity or magnetic hysteresis or both of the material varies with position over the interaction element, such that, as the second component moves with respect to the first component, the magnet induces at least one of eddy currents and hysteresis forces in the interaction element that vary in intensity during each cycle of motion.

30. (Currently amended) The ~~invention~~ apparatus of claim 29, wherein the interaction element has one or more cutouts, each cutout corresponding to a position of local minimum interaction level between the electromagnetic elements.

31. (Currently amended) The ~~invention~~ apparatus of claim 30, wherein the interaction element has a plurality of cutouts.

32. (Currently amended) The ~~invention~~ apparatus of claim 31, wherein at least two of the cutouts have different dimensions resulting in different local minimum interaction levels and different speeds of motion over each cycle of motion.

Claims 33 and 34 (Cancelled)

35. (Currently amended) The ~~invention~~ apparatus of claim 1, wherein each component has one or more magnets whose interaction levels vary over each cycle of motion.

36. (Currently amended) The ~~invention~~ apparatus of claim 1, wherein the second component is rotatably coupled to the first component such that the cycle of motion corresponds to a complete rotation of the second component with respect to the first component.

37. (Currently amended) The ~~invention~~ apparatus of claim 1, wherein the second component is rotatably coupled to the first component such that the cycle of motion corresponds to a partial rotation of the second component with respect to the first component.

Claims 38 - 41 (Cancelled)

42. (Currently amended) The ~~invention~~ apparatus of claim 1, wherein the second component is slidably coupled to the first component such that the cycle of motion corresponds to a partial reciprocation of the second component with respect to the first component.

43. (Currently amended) The ~~invention~~ apparatus of claim 1, further comprising at least one more component, wherein the first, second, and at least one more components form at least two pairs of corresponding components, wherein, within each pair, one component is adapted to move with respect to the other component.

44. (New) The apparatus of claim 1, wherein said first and second components comprise a bubble vibration toy, wherein said bubble vibration toy shows oscillations of at least one soap film stretched over one or more rigid or partially rigid boundaries, said oscillations being visible in a mode of motion..
45. (New) The apparatus of claim 44, further comprising:
a frame of circular or square cross section over which is stretched the soap film, and which is put into oscillation in said mode of motion.
46. (New) The apparatus of claim 44, further comprising:
at least two different frames, where soap films are stretched over each, and wherein said at least two different frames display soap film oscillations in different modes of motion.
47. (New) The apparatus of claim 1, wherein said first and second components are adapted to attach to an internal combustion engine, wherein the levels of electromagnetic interaction between the first component and the second component vary in a manner to partly or completely smooth out the pulsating torque being delivered by the combustion engine.
48. (New) The apparatus of claim 1, further comprising:
a brake having varying levels of interaction between the first and second components resulting in a varying braking force being applied, without using any modulation of applied external power.

49. (New) The apparatus of claim 1, further comprising:

a latching or ejector mechanism, which utilizes the varying electromagnetic forces between the first and second component to make the motion profile as desired in at least one of time, exemplarily reducing jerk, improving speed constancy, and any combination thereof.

50. (New) The apparatus of claim 1, further comprising:

an shock absorber having varying co-efficients of damping and/or spring constants based on varying levels of electromagnetic interaction between the first and second components without the use of external control or power.